

Remarks

Claims 1-7, 9-13 & 21-23 are at issue. Claims 14-20 have been cancelled as non-elected claims. Claims 1-7, 9-13 & 21-22 stand rejected under 35 USC 103 (a) as being unpatentable over Akram et al (US 2004/0238957) in view of Hagemann et al (US 4,477,401).

Akram et al do not discuss the use of BCTZ. Hagemann et al discuss the use of a type of BCTZ but require that the BCTZ be sintered at temperatures of 1340 to 1400 degrees C. If this is tried with an aluminum lead as required by the claims, the aluminum lead will melt away making the circuit inoperative. In addition, the sintering is a thick-film process. Note that Hagemann does not show or suggest that the dielectric material can be applied at temperatures at or below 450° C (the temperature at which aluminum starts to melt). In addition, Akram specifically requires a thin film dielectric layer 38 (see paragraph 56). A thick film as discussed in Hagemann will not work with the Akram invention. As a result, the combination of the references is inappropriate.

Claim 1 requires that the nickel electrode be electrically connected to the aluminum lead of the IC. Aluminum will become very soft above 450 degrees centigrade and if heated above this temperature may result in discontinuities. (See specification Page 6, lines 8-10) Hagemann et al state in the abstract that they anneal the capacitor at a temperature above 500-900 degrees centigrade and apply the material at 1340-1400 degrees C (See Col. 4, lines 32-34). Combining Akram with Hagemann results in an inoperative circuit if the leads are aluminum and the BCTZ is heated to these temperatures. Claim 1 is allowable.

Claim 4 specifically requires that the BCTZ be applied at a temperature that does not exceed 450° C. This is not shown in either of the prior art references.

Claim 7 requires that the nickel electrode be electrically connected to the aluminum lead of the IC. Aluminum will become very soft above 450 degrees centigrade and if heated above this temperature may result in discontinuities. (See specification Page 6, lines 8-10) Hagemann et al state in the abstract that they anneal

the capacitor at a temperature above 500-900 degrees centigrade and apply the material at 1340-1400 degrees C (See Col. 4, lines 32-34). Combining Akram with Hagemann results in an inoperative circuit if the leads are aluminum and the BCTZ is heated to these temperatures. Claim 7 is allowable.

Claim 21 requires that the nickel electrode be electrically connected to the aluminum lead of the IC. Aluminum will become very soft above 450 degrees centigrade and if heated above this temperature may result in discontinuities. (See specification Page 6, lines 8-10) Hagemann et al state in the abstract that they anneal the capacitor at a temperature above 500-900 degrees centigrade and apply the material at 1340-1400 degrees C (See Col. 4, lines 32-34). Combining Akram with Hagemann results in an inoperative circuit if the leads are aluminum and the BCTZ is heated to these temperatures. Claim 21 is allowable.

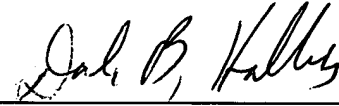
All the other claims are allowable as being dependent upon an allowable base claim.

Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

(Philofsky)

By



Attorney for the Applicant

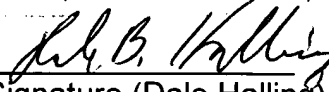
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